

**November 1, 2017**

**Title:** Additive Manufacturing for Reactor Materials & Components

**Date and Time:** November 28-29, 2017; 08:00 to 17:00

**Location:** NRC Two White Flint North, HQ-TWFN-ACRS.T2B3, 11545 Rockville Pike, Rockville, MD 20852

**Category:** This is a Category 3 meeting. Public participation is actively sought for this meeting to fully engage the public in a discussion of technical and regulatory issues.

**Purpose:** The NRC has been informed that reactor components made by additive manufacturing (AM), and especially by powder bed fusion/direct metal laser melting/sintering (DMLM), are being considered for applications in the operating fleet as early as calendar year 2018. Given the anticipated level of activity, the objectives for this public meeting are to:  
(1) Gain situational awareness, identify key POCs from various organizations, and discuss coordination efforts across agencies  
(2) Address topics such as

- a. The state-of-the-art of AM
- b. Industry Activities in AM
- c. Reverse engineering and fabrication of reactor components
- d. Irradiation testing & effects on AM
- e. AM Qualification
- f. Standards for AM
- g. Effects of process and design parameters
- h. Nondestructive evaluation of components fabricated using AM
- i. Corrosion behavior in AM components
- j. American AM activity in international context

**Contact:** Amy Hull, 301-415-2435, [Amy.Hull@nrc.gov](mailto:Amy.Hull@nrc.gov)

**Participants:**

<u>NRC</u>	<u>External</u>
Office of Nuclear Regulatory Research:	ANSI, Jim McCabe
Brian Thomas	ASME, Steve Weinman
Rob Tregoning	CTC, Scott Zimmerman
Istvan Frankl	EPRI, Dave Gandy
Amy Hull	GEH, Francis Bolger
Carol Moyer	NAVSEA, Justin Rettaliata
Office of New Reactors:	NIST, Paul Witherell
John Burke	NSWC, Sam Pratt
Terry Jackson	NuScale Power, Scott Bailey
Office of Nuclear Reactor Regulation:	WEC, Paula Freyer
Dave Rudland	WEC, Bill Cleary
Chris Hovanec	WEC, Zeses Karoutas

**DRAFT AGENDA, REV. 2**

ADDITIVE MANUFACTURING FOR REACTOR MATERIALS & COMPONENTS  
PUBLIC MEETING (CATEGORY 3), NRC HEADQUARTERS, (ROOM TWFN-2B3),  
11545 ROCKVILLE PIKE, NORTH BETHESDA, MD 20852

**Tuesday, November 28, 2017**

<b><i>Nuclear Industry Activities and Perspectives</i></b>		
<b>Time</b>	<b>Presentation Topic</b>	<b>Organization – Presenter</b>
0800	Introduction and Welcome	NRC/RES - TBD
0815	NRC/NRO Issues & Concerns	NRC/NRO - Burke
0840	NRC/NRR Issues & Concerns	NRC/NRR - TBD
0900	NRC/RES Issues & Concerns	NRC/RES - TBD
0915	Industry Overview	EPRI – D. Gandy
0945	Industry Overview	TBD
1015	Break	
1030	Industry Insights on CyberSecurity for AM	CTC – Scott Zimmerman
1100	Industry Insights	TBD
1130	Industry Insights	TBD
1200	Lunch	
1300	GEH Activities	GEH – TBD
1330	The 'Big Picture' Vision for AM in Nuclear Industry	WEC – Z. Karoutas
1340	WEC Activities (reverse engineering, manufacturing)	WEC – B. Cleary
1400	WEC (materials properties, corrosion, irradiation tests)	WEC – P. Freyer
1425	NuScale Activities with AM	NuScale Power – S. Bailey
1445	Break	
1500	Areva Activities	Areva - TBD
1530	Lessons learned from installation of AM in NPP	Siemens – TBD
1600	International Consortium activities	TBD
1630	Summarize Day 1, Discussion, Capture Action Items	NRC & Participants
1700	Public comment	NRC
1715	Adjourn for Day	NRC

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**Wednesday, November 29, 2017**

<b>Government Agency Initiatives</b>		
<b>Time</b>	<b>Presentation Topic (author provides)</b>	<b>Organization - Presenter</b>
0800	Recap of Action Items, First Day Highlights	NRC (NRO/NRR/RES)
0900	Insight from work on AM. esp. PBF/DMLM	DOE – TBD
0930	Insight from work on AM. esp. PBF/DMLM	TBD
1015	Insight from work on AM. esp. PBF/DMLM	TBD
1045	Break	
1100	Metallic AM Technical Capabilities at NSWC Carderock	NSWC – Sam Pratt
1130	Qualification & Certification of Components for NAVSEA	NAVSEA - Justin Rettaliata
1200	Lunch	
1300	State of Art Review: USNIC/INL Oct 3-5 AM meetings	NRC/RES - Carol Moyer
1315	State of Art Review: ASTM Nov 15-16 AM Symposium	NRC - TBD
1330	Fatigue Performance of AM Metals esp. PBF/DMLM	EWI – TBD
1400	AM Qualification: Incorporating Simulation & Analysis	NIST – P.Witherell
1430	Insight from work on AM, esp. nonmetallics	NASA-MSFC – TBD
1500	Break	
1515	Qualification of Safety Significant AM Components	FAA – TBD
1545	Additive Manufacturing Standardization Collaborative	ANSI - Jim McCabe
1615	Panel Discussion, action items, proposed followup	NRC & Participants
1645	Public comment	NRC
1700	Adjourn Meeting	NRC

The time of the meeting is local to the jurisdiction where the meeting is being held. The NRC provides reasonable accommodation to individuals with disabilities where appropriate. If reasonable accommodation is needed to participate in this meeting, or if a meeting notice, transcript, or other information from this meeting is needed in another format (e.g., Braille, large print), please notify the NRC meeting contact. Determinations on requests for reasonable accommodation will be made on a case-by-case basis.

ADAMS Accession Number:

OFFICE	RES/DE/CMB	RES/DE/CMB	RES/DE/CMB
NAME	A. Hull	C. Moyer	I. Frankl
DATE	11/01/2017	11/ /2017	11/ /2017

**OFFICIAL RECORD COPY**

Link to meeting details:

Commission's Policy Statement on "Enhancing Public Participation in NRC Meetings"  
67 Federal Register 36920, May 28, 2002  
The policy statement may be found on the NRC website  
<http://www.nrc.gov/reading-rm/doc-collections/commission/policy/67fr36920.html>